

**Redefined
Merced-Fresno Design-Build Section
ARRA Track 2 Scope**

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Introduction

In January 2010 the Federal Railroad Administration (FRA) notified the California High-Speed Rail Authority (Authority) that it had been selected to receive an American Recovery and Reinvestment Act of 2009 (ARRA) Track 2 grant award of up to \$2.25 billion (B) upon satisfaction of certain grant conditions and requirements. From that amount \$400 million (M) has been allocated by USDOT to the Transbay Transit Center. Additionally, \$194 M of the ARRA funds is earmarked for the completion of the Preliminary Engineering/National Environmental Protection Act/California Environmental Quality Act (PE/NEPA/CEQA) activities for Phase 1 of the California High-Speed Train Project (CHSTP). Hence the remaining funds available for the final design and construction are \$1.656 B, and when matched with California Proposition 1A Bond funds are up to \$3.312 B. Four design/build (D/B) program sections, including the Merced-Fresno Section discussed here, were proposed by the Authority for ARRA Track 2 funding in October 2009, and all four are still considered eligible. Presumably, one of these four eligible sections will ultimately be funded, but which one is not currently known.

In applying for funding under the FY10 Service Development Programs solicitation, the Authority has decided to re-assess the original ARRA Track 2 grant scope, identify needed refinements to optimize use of the \$3.312B available funding (while meeting the FRA's "independent utility" criteria), and develop potential additional scope for this year's round of HSIPR funding, which would complement or enhance the ARRA Track 2 section scope and help advance the CHSTP. However, since no decision has yet been made as to which of the four ARRA-eligible projects would ultimately be funded, the Authority has redefined the scope of each of these four project sections, describing how operational independence could be achieved, and defined the measurable benefits of each.

Due to funding constraints only one ARRA-eligible project/section potentially augmented by its associated FY10 SDP grant scope will ultimately be funded. While the FRA would prefer the Authority to prioritize the sections, this is not currently possible, so four new grant requests are being submitted to complement and enhance the four ARRA-eligible project sections. The Authority proposes to combine any FY10 HSIPR Service Development Program funding awarded under the current solicitation with the available ARRA Track 2 funding to construct an enhanced project section of the CHSTP.

The ARRA-eligible scope in each project section needs to be clearly defined since one of the conditions of the current solicitation is that projects that have received HSIPR program funding under previous solicitations (e.g., ARRA Track 2 grants) are not eligible for new funding (i.e., the identical projects cannot be re-submitted). Therefore, as part of preparing new grant requests, the Authority has redefined the four ARRA-eligible project sections.

Projects funded with ARRA Track 2 funds must retain "operational independence" as defined in Sec. 3.5.2 of the Notice of Funding Availability (NOFA), without considering any new funds. As the Authority was awarded only approximately 50% of its original ARRA application value, the FRA requires clarity on how this funding would be applied in case of award, to meet the "operational independence" criteria. Therefore, the Authority has redefined or refined the scope of each of these projects, described how operational independence would be achieved, and identified the measurable benefits of each.

The refined ARRA-eligible project sections remain subject to the schedule constraints (NOD/ROD by Sept 2011). It is understood that while the FY10 HSIPR applications for the enhancements of the ARRA corridors are not subject to the ARRA timelines, the use of these funds is contingent on the completion of the NOD/ROD for the ARRA sections to be on schedule.

Following is a redefinition of the scope of the Merced-Fresno ARRA D/B Program Section.

A. Original Merced-Fresno ARRA D/B Grant Scope (see Figure 1):

- The Authority applied for \$931.9 M for track and Structures (\$603 M), Right-of-Way and Sitework (\$208.4 M) and associated professional services and contingency for the rural HST civil infrastructure including track from approx. 3 miles south of Merced to approximately 3 miles north of Fresno with interconnection to the existing BNSF track, thus allowing operation from the Amtrak stations in Merced to the Amtrak station in Fresno.
- Amtrak's San Joaquin service would meet the operational independence requirement, but requires signaling.

B. Refinements and re-scoping of the Merced-Fresno D/B ARRA section (see Figure 2)

- The total available ARRA D/B funding (\$3.312B) would be sufficient to build the complete Merced to Fresno section as originally scoped; however the Authority would prefer to include the new Merced HST Station in the scope of the refined ARRA (extending the length of the new high-speed track through Merced) and maintaining the originally planned connection into the Amtrak station in Fresno. The new SDP grant funding applied for under this solicitation would enable the new HST Fresno station to be added to the scope and the track extended south approx 20 miles to reconnect with the BNSF alignment at the north end of the Hanford section. This would eliminate the need for connection from the HST mainline into the Amtrak Fresno station.
- The ARRA Track 2 scope discussed below describes the re-defined project beginning with connection to the BNSF at Castle Commerce Center in Atwater, continuing south through and including the new Merced HST Station, then south past Chowchilla and Madera, crossing over the San Joaquin River and terminating with a connection into the Amtrak Fresno Station.
- The route alternatives used in the refined project described herein were selected only for the purposes of developing a cost estimate to apply for funding. This identification of route alternatives for costing purposes does not prejudice or influence the final Locally Preferred Alternative still to be determined through the EIR/EIS process.
- In the interim, Amtrak San Joaquin service could provide operational independence from the northern connection to the BNSF at Castle Commerce Center, through Merced and into the Amtrak Station in Fresno.
- A signaling system (Positive Train Control) for operation of Amtrak trains on the new alignment would be needed and is included in the estimate.
- The ARRA funded alignment would be approximately 67 miles in length and not only completes the section from Merced to Fresno, but provides for the adjoining future mainline connection from Fresno to San Jose in the vicinity of West Chowchilla.
- For the \$3.312B (\$YOE) available funding, the Authority recommends constructing the following revised Project Scope:

Castle Commerce to Merced HST Station

This is the connection from the BNSF line at Atwater, leaving the alignment on the west side of the BNSF and running between and parallel to Trindale Road and Franklin Road towards the UPRR alignment. The alignment will transition from at grade to an aerial structure to cross over the SR 99 and the UPRR. The alignment will stay elevated and adjacent to the west side of the UPRR and connect into the elevated Merced HST Station. The total length is approximately 5 miles.

Figure 1. Original Merced-Fresno ARRA Design/Build Grant Scope

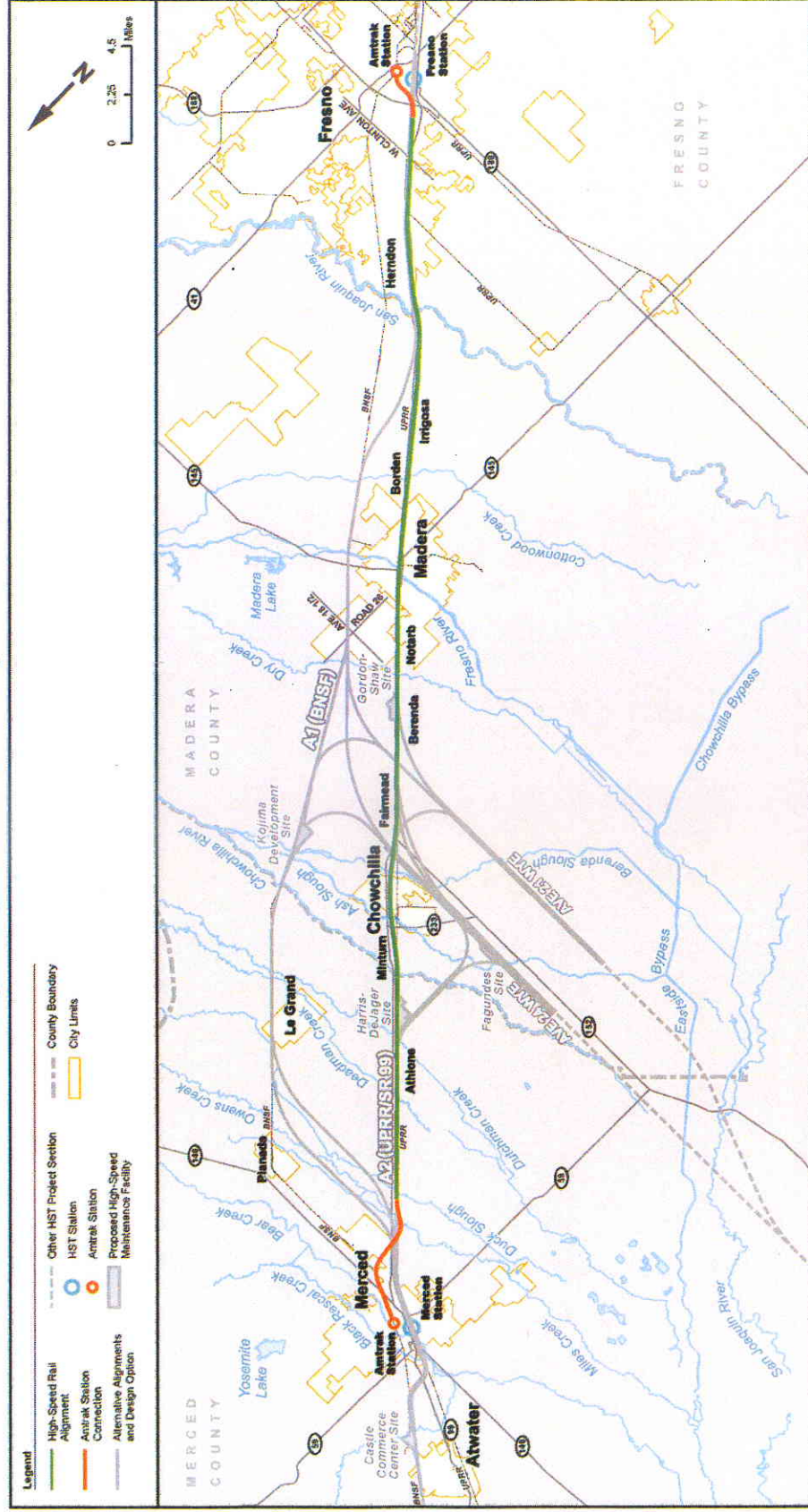
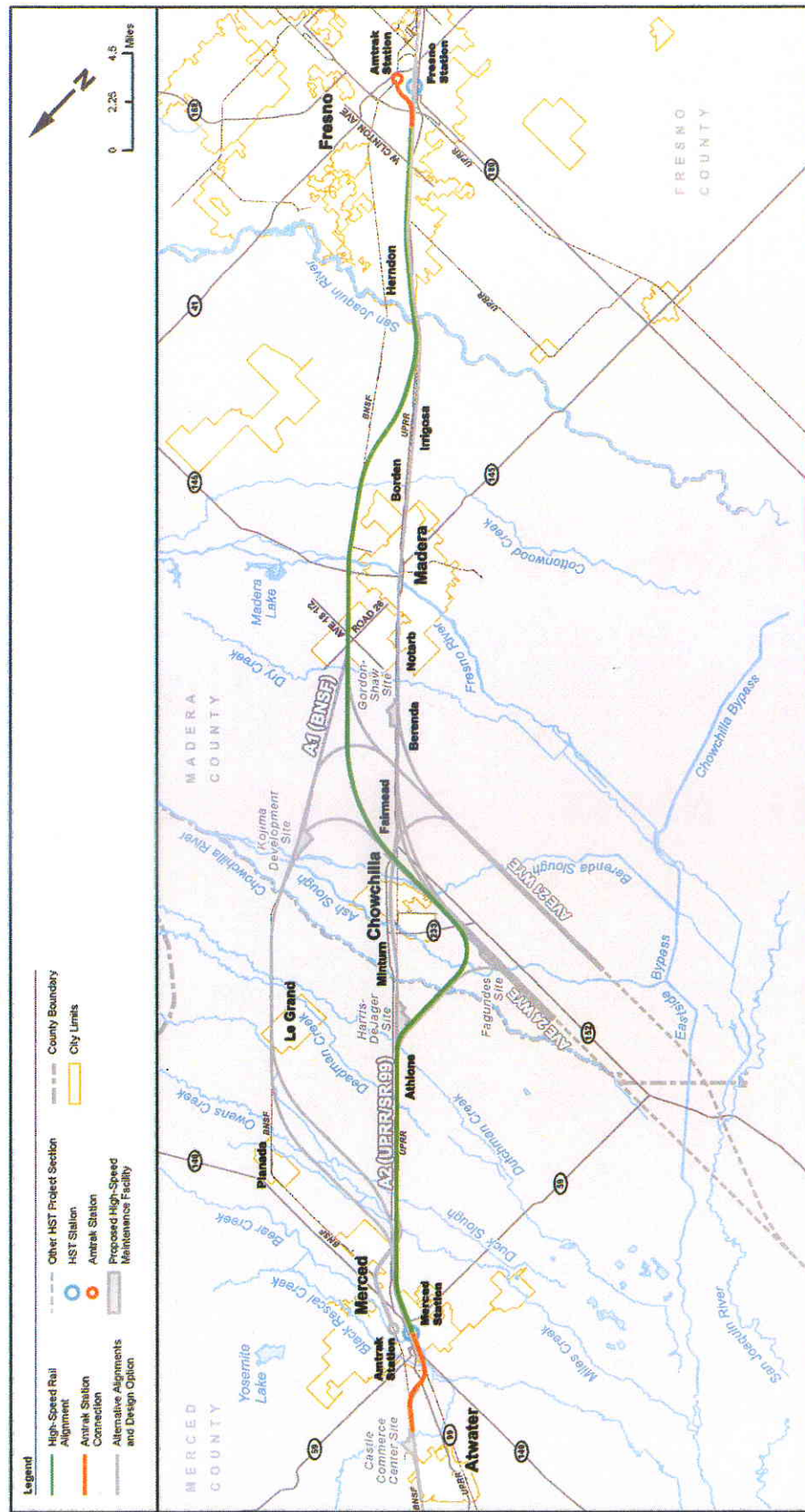


Figure 2. Revised Merced-Fresno ARRA Design/Build Grant Scope



Merced HST Station to Athlone

From the elevated HST Merced station the alignment transitions down to grade over a distance of approximately 3 miles, the alignment then continues south, running adjacent to and on the west side of the UPRR to Athlone, where it starts to move away from the UPRR moving to the west side of the City of Chowchilla. The total length is approximately 13 miles.

Athlone to Avenue 24 Wye Connection, (San Jose to Fresno connection)

The alignment curves to the west from the UPRR at Athlone and runs in proximity and parallel to Road 12 before reversing the curve to connect into the San Jose to Fresno alignment running adjacent to Avenue 24. The alignment will be at grade, except for where the HST tracks cross over themselves to complete the Wye connection. The total length is approximately 8 miles.

Avenue 24 Wye Connection, (San Jose to Fresno connection) to BNSF near the intersection of Road 26/Ave 18 ½ in Madera

The alignment runs adjacent to the south side of Ave 24 in a south easterly direction. The alignment transitions from at grade to an elevated structure to cross over the UPRR and continues elevated to cross SR99 and then transitions back down to grade before reaching then BNSF alignment at Road 26 / Ave 18 ½ where it starts to run parallel to the west side of the BNSF. The total alignment length is approximately 14 miles including approximately 1.5 miles of elevated structure.

Road 26/Ave 18 ½ intersection to the San Joaquin River

The alignment runs adjacent to the west side of the BNSF for approximately 7 miles before turning away to the west back towards the UPRR alignment on the south side of Madera where the alignment becomes adjacent to the east side of the UPRR and transitions from at grade to elevated to cross over the San Joaquin River. The total alignment length is approximately 15 miles.

San Joaquin River to West Clinton Avenue (Fresno)

After crossing the San Joaquin River on the east side of the UPRR, the alignment stays elevated to cross over the UPRR and Golden State Boulevard, the alignment then transitions down to be at grade for approx. 2.5 miles between Herndon and Shaw and the transitions back to an elevated structure to fit between to UPRR on the East and a re-aligned SR 99 on the west. The alignment is elevated over West Clinton Avenue. The total alignment length is approximately 8 miles.

West Clinton Ave to the Fresno Amtrak Station

The alignment transitions from the west side of the UPRR to the east side of the UPRR south of West Clinton Ave and runs parallel to the UPRR to Divisadero St.. The alignment then starts to leave the HST alignment to travel in the vicinity of Divisadero St until connecting into the BNSF alignment on the north side of the Amtrak Fresno Station. The total alignment length is approximately 4 miles.

Note: The attached budget form shows a revised total of \$3,311,749,000 for this section. The intent is to apply the full amount of available ARRA Track 2 grant funding (\$3.312 B) to whichever ARRA-eligible section is funded. The difference between the attached revised estimate and the total available budget would be retained as additional Unallocated Contingency.

C. Merced-Fresno FY10 SDP Grant Application Scope

To differentiate between the refined Merced to Fresno ARRA D/B scope above and the new grant application scope, a brief description of the changes follows:

- The last sub-section from West Clinton Ave to Fresno Amtrak Station would be eliminated and replaced with the following new sub-section from West Clinton Ave to E Conejo Avenue, approximately 20 miles south of Fresno.

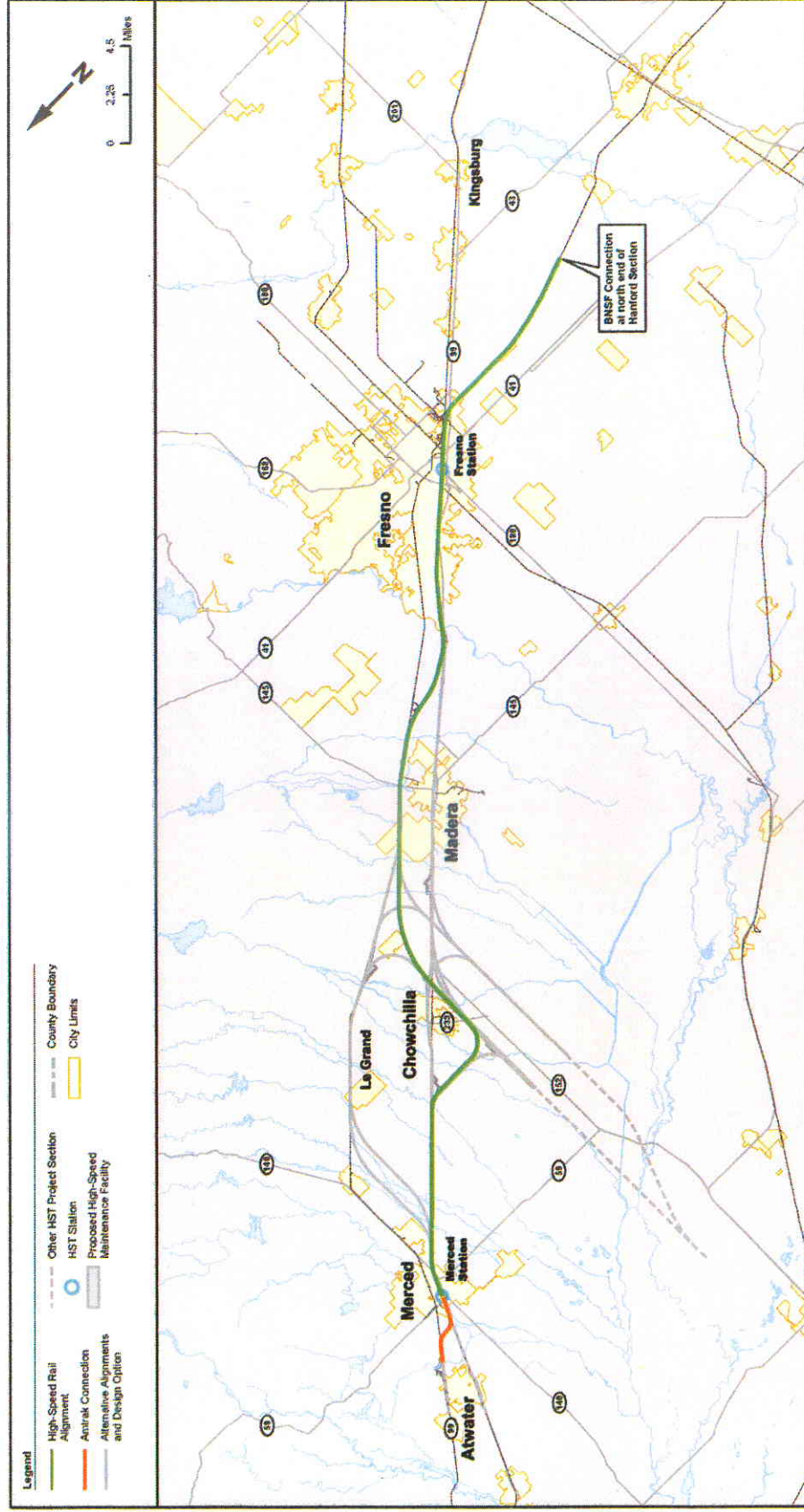
West Clinton Avenue to E Conejo Avenue

- The alignment transitions from the west side of the UPRR to the east side of the UPRR south of West Clinton Ave and runs along the UPRR corridor through downtown Fresno to the new Fresno HST Station, on the south side of Fresno the alignment transitions from elevated to at grade and rejoins the BNSF alignment approx. 20 miles south of Fresno at E Conejo Ave. The total alignment length is approximately 24 miles, of which 12 miles will be at grade at the southern end of the sub-section.

With this addition, the ARRA Track 2 grant-funded plus new SDP grant-funded alignment would be 84 miles in length (see Figure 3). Amtrak's San Joaquins would offer operational independence from the connection to the existing BNSF north of Merced at Castle Commerce Center, passing through the new HST stations at both Merced and Fresno and reconnecting to the existing BNSF south of Fresno to the north end of the Hanford section in the vicinity of E Conejo Avenue.

The total cost of the proposed added scope is estimated to be \$1,077,955,000 (\$YOE). The proposed 70% federal share of \$754,570,000 would be matched by a 30% state share (\$323,385,000).

Figure 3. Revised Merced-Fresno ARRA Design/Build Grant Scope with New Grant Scope Added



Service Development Program Budget and Schedule Form



Welcome to the Service Development Program Budget and Schedule Form. To begin, save this Excel workbook to your computer and open the file. The buttons below will help you to easily navigate the forms contained in this file. To get started click on the button labeled "1. General Info."

Note 1: Yellow cells require you to enter values and blue cells are set up to auto-populate based on formulas that are embedded in the forms. If you have questions about this form or the formulas and calculations contained herein, please email the HSIPR Program Manager at HSIPR@dot.gov.

Note 2: For purposes of this application, "Fiscal Year (FY)" refers to the Federal fiscal year (October 1- September 30).

Color Key for Completing this Form:

Cell Type/Color:	Applicant Should Input a Value	Template will Auto Populate (see note 1 above)	FRA Use Only: Applicant Does Not Complete
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General Info (click here first)

Capital Cost Info. (Standard Cost Categories for reference)

Detailed Capital Cost Budget

Annual Capital Cost Budget

Instructions for Operating & Financial Sheets

Operating & Maintenance Info

Operating & Financial Performance

Sustainability Sheet

Analysis of Funding Sources for Sustainability

Program Schedule

General Information

Below, please indicate the Service Development Program name. The Service Development Program name must be identical to the name listed in the Application Form. Limited to 50 characters, the name must consist of the following elements, each separated by a hyphen: (1) the State abbreviation of the State submitting this application; (2) the route or corridor name that is the subject of the related Corridor Service Overview; and (3) a descriptor that will concisely identify the Corridor Program's focus (e.g., HI-Fast Corridor-Main Stem)

1. Please enter the requested data into the yellow cells.
This information will auto-populate other areas of the form.

Service Development Program Name
(same as on Application Form)

CA-MERCED/FRESNOHSR-DESIGN/BUILD

Application Assumptions

1. Please use this section to capture two separate sets of assumptions that will enter the costs shown in subsequent sheets. The contingency rate is the allowance for uncertainties in projected costs. The Annual Inflation Rate will be used to convert between 2011 constant dollars and Year of Expenditure dollars. Enter the assumed annual inflation rate for each category for each year, with the exception of 2010 and 2011. Inflation rates for 2010 and 2011 are not used in Year of Expenditure calculations in other sections of this form.

		Contingency Rate Assumption (%)	Annual Inflation Rate Assumptions by Year (%)									
Cost Categories*			2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Categories for Detailed Capital Cost Budget												
10 Track Structures and Track		15.0%			2.5%	3.0%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
20 Stations, Terminals, Intermodal		25.0%			2.5%	3.0%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
30 Support Facilities: Yards, Shops, Admin. Bldgs		25.0%			2.5%	3.0%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
40 Sitework, Right of Way, Land, Existing Improvements & Special Conditions		15.0%			2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
50 Communications & Signaling		15.0%			2.5%	3.0%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
60 Electric Traction		15.0%			2.5%	3.0%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
70 Vehicles		0.0%										
80 Professional Services (applies to Cats. 10-60)		0.0%			2.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
90 Unallocated Contingency		n/a			2.5%	3.0%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
100 Finance Charges		n/a										
Category for Operating, Financial, and Sustainability Information			2010	2011	2012	2013	2014	2015	2016	2017	2018	2019**
Operating, Financial, Sustainability Information-- All-Purpose Inflation Rates			3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%

* See "Capital Cost Info." for definitions and explanations of the Standard Capital Cost (SCC) Categories.

** For 2019 Operating, Financial, and Sustainability Inflation Assumptions, enter a single annual inflation rate for 2019 that will be used for 2019 and all subsequent years.

If not using the FRA formulas, please describe your methodology in the space provided below as well as listing any supporting documentation.

Detailed Capital Cost Budget

Instructions:

To assist FRA in comparing projects, this form provides a breakdown of capital cost using Standard Cost Categories (SCCs). Definitions of FRA's SCCs can be found in the "Capital Cost Info" tab of this workbook. The data you enter in this form should be drawn from budget estimates or analysis you have available for your project.

1. Enter values in the yellow cells below. You should only provide data for those costs categories associated with this project; leave others blank.

2. The light blue cells will auto-populate based on the Contingency rates entered in "General Info."

3. Explain any large discrete, identifiable and/or unique capital investments in the space provided at the bottom of this form. Where an explanation is appropriate, place an asterisk in the far right column to denote that an explanation is provided. Please include the reference to the Cost Category number in your explanation. Example: "10.07: Tunnel at xxxx [location], x.x miles in length, consists of one twin-tube New Austrian Tunneling Method tunnel with cross-passages located every .25 miles."

4. For purposes of this application "Base Year Dollars" are Fiscal Year (FY) 2011 Dollars.

		Applicant Inputs				Program Name: CA-MERCED/FRESNOHSR-DESIGN/BUILD		
	Unit	Quantity	Unit Cost (Thousands of Base Yr/FY 11 Dollars)	Non-Unit Based Costs	Total Allocated Cost (Thousands of Base Yr FY11 Dollars)	Allocated Contingency (Thousands of Base Yr/FY 11 Dollars)	TOTAL COST (Thousands of Base Yr/FY 11 Dollars)	Explanation Provided? (If so use *)
10 TRACK STRUCTURES & TRACK								
10.01	Track structure: Viaduct	Miles	27.01	\$ 51,133	\$ 1,742,747	\$ 261,412	\$ 2,004,159	
10.02	Track structure: Major/Movable bridge				\$ 1,381,091	\$ 207,164	\$ 1,588,255	
10.03	Track structure: Undergrade Bridges				\$ -	\$ -	\$ -	
10.04	Track structure: Culverts and drainage structures	#			\$ -	\$ -	\$ -	
10.05	Track structure: Cut and Fill (> 4' height/depth)	Miles			\$ -	\$ -	\$ -	
10.06	Track structure: At-grade (grading and subgrade stabilization)	Miles	44.28	\$ 2,431	\$ 107,629	\$ 16,144	\$ 123,773	
10.07	Track structure: Tunnel				\$ -	\$ -	\$ -	
10.08	Track structure: Retaining walls and systems	Miles			\$ -	\$ -	\$ -	
10.09	Track new construction: Conventional ballasted			\$ 189,456	\$ 189,456	\$ 28,418	\$ 217,874	
10.10	Track new construction: Non-ballasted			\$ 9,053	\$ 9,053	\$ 1,358	\$ 10,411	
10.11	Track rehabilitation: Ballast and surfacing				\$ -	\$ -	\$ -	
10.12	Track rehabilitation: Ditching and drainage				\$ -	\$ -	\$ -	
10.13	Track rehabilitation: Component replacement (rail, ties, etc)				\$ -	\$ -	\$ -	
10.14	Track: Special track work (switches, turnouts, insulated joints)			\$ 26,492	\$ 26,492	\$ 3,974	\$ 30,466	
10.15	Track: Major interlockings				\$ -	\$ -	\$ -	
10.16	Track: Switch heaters (with power and control)				\$ -	\$ -	\$ -	
10.17	Track: Vibration and noise dampening				\$ -	\$ -	\$ -	
10.18	Other linear structures including fencing, sound walls	Miles	22.31	\$ 1,301	\$ 29,026	\$ 4,354	\$ 33,380	
20 STATIONS, TERMINALS, INTERMODAL								
20.01	Station buildings: Intercity passenger rail only			\$ 43,396	\$ 43,396	\$ 10,849	\$ 54,245	
20.02	Station buildings: Joint use (commuter rail, intercity bus)				\$ -	\$ -	\$ -	
20.03	Platforms				\$ -	\$ -	\$ -	
20.04	Elevators, escalators				\$ -	\$ -	\$ -	
20.05	Joint commercial development				\$ -	\$ -	\$ -	
20.06	Pedestrian / bike access and accommodation, landscaping, parking lots				\$ -	\$ -	\$ -	
20.07	Automobile, bus, van accessways including roads				\$ -	\$ -	\$ -	
20.08	Fare collection systems and equipment				\$ -	\$ -	\$ -	
20.09	Station security				\$ -	\$ -	\$ -	
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS								
30.01	Administration building: Office, sales, storage, revenue counting				\$ -	\$ -	\$ -	
30.02	Light maintenance facility				\$ -	\$ -	\$ -	
30.03	Heavy maintenance facility				\$ -	\$ -	\$ -	
30.04	Storage or maintenance-of-way building/bases				\$ -	\$ -	\$ -	
30.05	Yard and yard track				\$ -	\$ -	\$ -	
40 SITEWORK, RIGHT OF WAY, LAND, EXISTING IMPROVEMENTS								
40.01	Demolition, clearing, site preparation				\$ 308,951	\$ 46,343	\$ 355,294	
40.02	Site utilities, utility relocation			\$ 37,103	\$ 37,103	\$ 5,565	\$ 42,668	
40.03	Hazardous material, contaminated soil removal/mitigation, ground water treatments				\$ -	\$ -	\$ -	
40.04	Environmental mitigation: wetlands, historic/archeology, parks			\$ 25,373	\$ 25,373	\$ 3,806	\$ 29,179	
40.05	Site structures including retaining walls, sound walls			\$ 1,718	\$ 1,718	\$ 258	\$ 1,975	
40.06	Temporary facilities and other indirect costs during construction				\$ -	\$ -	\$ -	
40.07	Purchase or lease of real estate			\$ 89,196	\$ 89,196	\$ 13,379	\$ 102,576	
40.08	Highway/pedestrian overpass/grade separations			\$ 155,562	\$ 155,562	\$ 23,334	\$ 178,896	
40.09	Relocation of existing households and businesses				\$ -	\$ -	\$ -	

	Unit	Quantity	Unit Cost (Thousands of Base Yr/FY 11 Dollars)	Non-Unit Based Costs	Total Allocated Cost (Thousands of Base Yr/FY 11 Dollars)	Allocated Contingency (Thousands of Base Yr/FY 11 Dollars)	TOTAL COST (Thousands of Base Yr/FY 11 Dollars)	Explanation Provided? (If so use *)
50 COMMUNICATIONS & SIGNALING					\$ 91,617	\$ 13,743	\$ 105,359	
50.01 Wayside signaling equipment					\$ -	\$ -	\$ -	
50.02 Signal power access and distribution					\$ -	\$ -	\$ -	
50.03 On-board signaling equipment					\$ -	\$ -	\$ -	
50.04 Traffic control and dispatching systems				\$ 91,617	\$ 91,617	\$ 13,743	\$ 105,359	
50.05 Communications					\$ -	\$ -	\$ -	
50.06 Grade crossing protection					\$ -	\$ -	\$ -	
50.07 Hazard detectors (dragging equipment, slide, etc.)					\$ -	\$ -	\$ -	
50.08 Station train approach warning system					\$ -	\$ -	\$ -	
60 ELECTRIC TRACTION					\$ -	\$ -	\$ -	
60.01 Traction power transmission: High voltage					\$ -	\$ -	\$ -	
60.02 Traction power supply: Substations	#				\$ -	\$ -	\$ -	
60.03 Traction power distribution: Catenary and third rail	#				\$ -	\$ -	\$ -	
60.04 Traction power control					\$ -	\$ -	\$ -	
Construction Subtotal (10-60)					\$ 2,186,711	\$ 332,346	\$ 2,519,057	
70 VEHICLES					\$ -	\$ -	\$ -	
70.00 Vehicle acquisition: Electric locomotive	#				\$ -	\$ -	\$ -	
70.01 Vehicle acquisition: Non-electric locomotive	#				\$ -	\$ -	\$ -	
70.02 Vehicle acquisition: Electric multiple unit	#				\$ -	\$ -	\$ -	
70.03 Vehicle acquisition: Diesel multiple unit	#				\$ -	\$ -	\$ -	
70.04 Veh acq: Loco-hauled passenger cars w/ ticketed space	#				\$ -	\$ -	\$ -	
70.05 Veh acq: Loco-hauled passenger cars w/o ticketed space	#				\$ -	\$ -	\$ -	
70.06 Vehicle acquisition: Maintenance of way vehicles	#				\$ -	\$ -	\$ -	
70.07 Vehicle acquisition: Non-railroad support vehicles	#				\$ -	\$ -	\$ -	
70.08 Vehicle refurbishment: Electric locomotive	#				\$ -	\$ -	\$ -	
70.09 Vehicle refurbishment: Non-electric locomotive	#				\$ -	\$ -	\$ -	
70.10 Vehicle refurbishment: Electric multiple unit	#				\$ -	\$ -	\$ -	
70.11 Vehicle refurbishment: Diesel multiple unit	#				\$ -	\$ -	\$ -	
70.12 Veh refurb: Passeng. loco-hauled car w/ ticketed space	#				\$ -	\$ -	\$ -	
70.13 Veh refurb: Non-passeng loco-hauled car w/o ticketed space	#				\$ -	\$ -	\$ -	
70.14 Vehicle refurbishment: Maintenance of way vehicles	#				\$ -	\$ -	\$ -	
70.15 Spare parts					\$ -	\$ -	\$ -	
80 PROFESSIONAL SERVICES					\$ 294,063	\$ -	\$ 294,063	
80.01 Service Development Plan/Service Environmental					\$ -	\$ -	\$ -	
80.02 Preliminary Engineering/Project Environmental					\$ -	\$ -	\$ -	
80.03 Final Design				\$ 133,774	\$ 133,774	\$ -	\$ 133,774	
80.04 Project management for design and construction				\$ 78,286	\$ 78,286	\$ -	\$ 78,286	
80.05 Construction administration & management				\$ 82,003	\$ 82,003	\$ -	\$ 82,003	
80.06 Professional liability and other non-construction insurance					\$ -	\$ -	\$ -	
80.07 Legal; Permits; Review Fees by other agencies, cities, etc.					\$ -	\$ -	\$ -	
80.08 Surveys, testing, investigation					\$ -	\$ -	\$ -	
80.09 Engineering inspection					\$ -	\$ -	\$ -	
80.10 Start up					\$ -	\$ -	\$ -	
Subtotal (10-80)					\$ 2,480,774	\$ 332,346	\$ 2,813,120	
90 UNALLOCATED CONTINGENCY							\$ 202,000	
Subtotal (10-90)							\$ 3,015,120	
100 FINANCE CHARGES								
TOTAL CAPITAL COSTS (10-100)							\$ 3,015,120	

Space provided for additional descriptions of capital costs.
See Example under "Instructions" above. Please include references to specific Cost Category numbers.

Annual Capital Cost Budget

Instructions:

This form provides a breakdown by year of the capital costs entered in the previous "Detailed Capital Cost Budget". The data you enter in this form should be drawn from budget estimates or analysis you have available for your project.

1. In the yellow cells in the "Base Year/ FY 2011 Dollars" table, enter the annual dollar figures for each cost category in thousands of Base Year/ FY 2011 Dollars. If you have allowable 2010 expenditures, record those in the 2011 cost category fields.

2. In the "Base Year/ FY 2011 Dollars" table, the numbers in the "Double Check Total" column will auto-populate from the "Detailed Capital Cost Budget" in the previous tab. The numbers in the "Base Year/ FY 11 Total" column will be the sum of the annual data entered to the left. The two columns should match for each Standard Cost Category. If the entries in the "Double Check Total" column are not identical, the Base Year/ FY 11 values you entered in the previous tab do not match the values entered in this tab.

3. The light blue cells in the Year of Expenditure (YOE) table will auto-populate using inflation rates from the "General Info" tab.

Program Name: CA-MERCED/FRESNOHSR-DESIGN/BUILD												
	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total in Base Yr /FY 11 Dollars*	Check Figures Taken from Detailed Budget:	
BASE YEAR FY 2011 DOLLARS (Thousands)												
10 TRACK STRUCTURES & TRACK		\$	200,746 \$	401,493 \$	700,531 \$	400,760 \$	200,546 \$	100,173 \$		\$	2,004,249 \$	
20 STATIONS, TERMINALS, INTERMODAL				\$	5,624 \$	20,986 \$	21,998 \$	5,637 \$		\$	54,245 \$	
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS										\$	-	
40 SITEWORK, RIGHT OF WAY, LAND, EXISTING IMPROVEMENTS			\$	143,891 \$	193,453 \$	17,950 \$				\$	355,294 \$	
50 COMMUNICATIONS & SIGNALING						26,340 \$	42,144 \$	36,875 \$		\$	105,359 \$	
60 ELECTRIC TRACTION										\$	-	
70 VEHICLES										\$	-	
80 PROFESSIONAL SERVICES (applies to Cats. 10-60)		\$	29,424 \$	49,136 \$	59,848 \$	73,561 \$	52,840 \$	29,254 \$		\$	294,063 \$	
90 UNALLOCATED CONTINGENCY		\$	20,575 \$	39,825 \$	50,300 \$	50,300 \$	41,000 \$			\$	202,000 \$	
100 FINANCE CHARGES										\$	-	
Total Program Cost (10-100)	\$	- \$	250,745 \$	634,345 \$	1,009,756 \$	589,897 \$	358,528 \$	171,939 \$	- \$	\$	3,015,120 \$	
YEAR OF EXPENDITURE (YOE) DOLLARS										YOE Total**		
10 TRACK STRUCTURES & TRACK	\$	- \$	205,765 \$	423,876 \$	765,471 \$	453,238 \$	234,745 \$	121,359 \$	- \$	\$	2,004,454 \$	
20 STATIONS, TERMINALS, INTERMODAL	\$	- \$	- \$	- \$	6,145 \$	23,734 \$	25,749 \$	6,829 \$	- \$	\$	62,458 \$	
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	\$	- \$	- \$	- \$	- \$	- \$	- \$	- \$	- \$	\$	-	
40 SITEWORK, RIGHT OF WAY, LAND, EXISTING IMPROVEMENTS	\$	- \$	- \$	149,704 \$	205,294 \$	19,430 \$	- \$	- \$	- \$	\$	374,428 \$	
50 COMMUNICATIONS & SIGNALING	\$	- \$	- \$	- \$	- \$	29,789 \$	49,331 \$	44,674 \$	- \$	\$	123,794 \$	
60 ELECTRIC TRACTION	\$	- \$	- \$	- \$	- \$	- \$	- \$	- \$	- \$	\$	-	
70 VEHICLES	\$	- \$	- \$	- \$	- \$	- \$	- \$	- \$	- \$	\$	-	
80 PROFESSIONAL SERVICES (applies to Cats. 10-60)	\$	- \$	30,012 \$	51,622 \$	64,763 \$	81,590 \$	60,661 \$	34,592 \$	- \$	\$	323,640 \$	
90 UNALLOCATED CONTINGENCY	\$	- \$	21,089 \$	42,045 \$	54,963 \$	56,887 \$	47,992 \$	- \$	- \$	\$	222,976 \$	
100 FINANCE CHARGES	\$	- \$	- \$	- \$	- \$	- \$	- \$	- \$	- \$	\$	-	
Total Program Cost (10-100)	\$	- \$	256,867 \$	667,248 \$	1,096,636 \$	665,067 \$	418,178 \$	207,454 \$	- \$	\$	3,311,749 \$	

* For the purpose of this application, base year dollars are considered FY 2011 dollars.

**Year-of-Expenditure(YOE) dollars are inflated Base Year dollars. Applicants must determine their own inflation rate and enter it on the "General Info" tab. Applicants should also explain their proposed inflation assumptions (and methodology, if applicable) in the Application Form.

‡ As a convenience to applicants in cross-checking their figures, this column shows the "Total Costs" by category in FY 2011 dollars carried over from the "Detailed Capital Cost Budget" sheet.

If not using the FRA provided formulas, please describe your methodology in the space provided below as well as listing any supporting documentation.

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Schedule- Service Development Program

Instructions:

1. In the yellow cells below, enter the anticipated "Start Date" and "End Date" for each high level activity (e.g., Final Design, Construction, Service Ops). Shade all cells in the corresponding row in which activity will take place. Enter an 'X' in a cell to shade that cell.
2. Illustrate the anticipated timing and duration of each task item on the chart below. Shade the quarters or months for each corresponding year in which work will take place on a task. Shade all cells in the corresponding row in which activity will take place. Enter an 'X' in a cell to shade that cell.
3. Complete this process for all of the tasks, both high-level tasks (e.g., Final Design) and subtasks (e.g., Issue request for bids, make awards of FD contracts).

Service Development Program Name	CA-MERCED/FRESNOSR-DESIGN/BUILD																	
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Service Development Plan																		
Develop Service Development Plan																		
Develop Service Selection NEPA documentation																		
Receive environmental determination for Service Selection NEPA																		
Submit request / receive FRA approval for Letter of Intent (if applicable)																		
Preliminary Engineering (PE)																		
Issue requests for bids, make awards of PE contracts																		
PE Drawings; and cost estimate, schedule, ridership forecast																		
Develop Project NEPA Document																		
Receive environmental determination for Project NEPA																		
Submit request / receive FRA funding obligation for FD/Construction (if applicable)																		
Final Design (FD)																		
Issue requests for bids, make awards of FD contracts																		
FD Drawings; and cost estimate, schedule refinement																		
Acquisition of real estate, relocation of households and businesses																		
Conduct reviews																		
Issue requests for bids																		
Submit request / receive FRA approval for Construction																		
Construction																		
Make awards of construction contracts																		
Construct infrastructure																		
Finalize real estate acquisitions and relocations																		
Acquire and test vehicles																		
Service Operations - Project/Program Close Date																		
Service Operations																		
Completion of project/program close-out, resolution of claims																		

Attachment 2: Summary of Transportation Benefits of the Redefined ARRA Track 2 grant for the Merced-Fresno Section

The Merced-Fresno ARRA base project is an integral part of the State-wide HST program to develop a new intercity passenger rail (IPR) service not provided today, with over 200 trains per day in 2035, carrying up to 100 million passengers statewide. Of these, approximately 50 million will be carried in Phase 1. Major benefits for mobility, economic activity, air quality, and land use development will be created, as documented in the 2005 California HST Statewide Program EIS/EIR and the 2008 Bay Area to Central Valley Program EIS/EIR.

In and of itself the project will provide an opportunity to speed up and improve safety for the California and US DOT-supported San Joaquins operated by Amtrak, as well as improve the service quality and capacity of freight service in the Central Valley in the event of delay in implementation of the HST services. The project will build track and structure for top HST speeds of 220 mph, capable of supporting the loads of existing trains and providing the opportunity for fossil-fueled locomotive operation at speeds of 125 mph to 150 mph. The project will fully grade separate this line, and reduce rail and road exposure to accidents at grade crossings. The project will install positive train control technology on the new line to allow safe and efficient operation.

OPERATIONAL INDEPENDENCE AND UTILITY -- IMPROVED SAN JOAQUINS TRANSPORTATION BENEFITS

The San Joaquins running on the project's infrastructure would provide the State's first true 125 mph high-speed intercity rail service with the potential for speeds up to 150 mph should today's prototype locomotives advance into commercial production. At the 125 mph speeds, and assuming the express operation of two new round trips in the State Rail Plan, the San Joaquins could save as much as twenty-one minutes compared to current trip times between Fresno and Merced, Sacramento, and the Bay Area. The existing local trains would also save around 15 minutes, stopping at a new station on the new line to serve Madera. Time savings to the Bay Area and Sacramento will be larger still as a result of other investments in the State Rail Plan.

As a result of the State Rail Plan improvements and forecast growth in the State, riders are anticipated to increase by 200,000 in the year 2018. The additional improvements from the ARRA base project will generate another 122,000 passengers in the same year. Thus the improvements from this project will result in 10% more San Joaquin riders than in the State Rail Plan, and 34% more than currently riding the San Joaquins. Ridership will grow to 1.49 million passengers by the tenth year of operation, a 53% increase. The faster services are expected to be more attractive for the longer distance trips and trip length will increase, resulting in an increase over today of 62 million passenger miles in 2018, growing to a 91 million passenger mile increase by the tenth year of operation in 2027, a 65% increase from today. On time performance of the San Joaquins is reasonably good, at around 90%, with trains delays equal to 3% of total time according to the Amtrak Monthly Report for May 2010. Freight and passenger train interference and host railroad delays accounted for roughly 1/2 of the total minutes of delay. The project's construction of a full double track alignment separated from freight trains will improve this component of delay, although interference and slow orders on the remainder of the route will still continue to impose some delay. The full grade separation of the alignment from crossing road traffic is the most important safety improvement to the transportation system growing from this investment. It will improve safety for road users and rail passengers and personnel alike.

The per-train-mile cost of operations to the State and Federal governments will be slightly lower, since the payments that Amtrak makes to the host railroad are based on train miles, and some 511,000 train miles per year will be transferred to the State-owned facility. In conjunction with the higher revenues, this will increase the proportion of operations cost covered by passenger fares to 53% from 43% today.

**MERCED TO FRESNO - Revised ARRA Segment
PRO-FORMA SOURCES & USES IN THOUSANDS**

Fiscal Year End*	[Date]	30/Sep/10	30/Sep/11	30/Sep/12	30/Sep/13	30/Sep/14	30/Sep/15	30/Sep/16	30/Sep/17	30/Sep/18	30/Sep/19	30/Sep/20	30/Sep/21	30/Sep/22	30/Sep/23
Periodic Growth in Revenue	[%]	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.3%	4.6%	4.4%	4.2%	4.8%
Federal Grants - Capital Investments	[\$ in '000]	0	0	202,658	361,484	457,976	323,987	203,772	102,534	3,546	0	0	0	0	0
State Grants - Capital Investments	[\$ in '000]	0	0	202,658	361,484	457,976	323,987	203,772	102,534	3,546	0	0	0	0	0
Local Grants - Capital Investments	[\$ in '000]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Operating Revenue - revised ARRA segment	[\$ in '000]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.2	58.9	61.7	64.4	67.1	70.4
Operating Subsidies - Caltrans & Federal	[\$ in '000]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	63.8	64.9	65.9	67.0	68.1	69.2
Capital Replacement Subsidies- Caltrans & Amtrak	[\$ in '000]	0	0	0	0	0	0	0	0	11,956	11,956	11,956	11,956	11,956	11,956
Total Sources	[\$ in '000]	0.0	0.0	405,315.9	722,967.1	915,952.1	647,973.1	407,544.7	205,068.8	19,167.4	12,080.0	12,083.8	12,087.6	12,091.5	12,095.7
Capital Costs - revised ARRA segment	[\$ in '000]	0	0	(405,316)	(722,967)	(915,952)	(647,973)	(407,545)	(205,069)	(7,091)	0	0	0	0	0
Operating Costs - revised ARRA segment	[\$ in '000]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(120.0)	(123.8)	(127.6)	(131.5)	(135.3)	(139.6)
Capital Replacement Costs - revised ARRA segment	[\$ in '000]	0	0	0	0	0	0	0	0	(11,956)	(11,956)	(11,956)	(11,956)	(11,956)	(11,956)
Total Uses	[\$ in '000]	0.0	0.0	(405,315.9)	(722,967.1)	(915,952.1)	(647,973.1)	(407,544.7)	(205,068.8)	(19,167.4)	(12,080.0)	(12,083.8)	(12,087.6)	(12,091.5)	(12,095.7)
Change in Cash	[\$ in '000]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

* All projects that are funded by the ARRA monies will be completed by Federal Fiscal Year 2017. However, based on past experience, it is expected that complete funding of those projects will only occur by the early months of Federal Fiscal Year 2018 once all respective paperwork is completed.

**MERCED TO FRESNO - Revised ARRA Segment
PRO-FORMA SOURCES & USES IN THOUSANDS**

Fiscal Year End*	[Date]	30/Sep/24	30/Sep/25	30/Sep/26	30/Sep/27	30/Sep/28	30/Sep/29	30/Sep/30	30/Sep/31	30/Sep/32	30/Sep/33	30/Sep/34	30/Sep/35	30/Sep/36	30/Sep/37
Periodic Growth in Revenue	[%]														
Federal Grants - Capital Investments	[\$ in '000]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
State Grants - Capital Investments	[\$ in '000]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Grants - Capital Investments	[\$ in '000]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Operating Revenue - revised ARRA segment	[\$ in '000]	73.6	76.9	80.1	83.9	86.9	90.0	93.1	96.2	99.4	102.5	105.6	108.8	111.9	115.1
Operating Subsidies - Caltrans & Federal	[\$ in '000]	70.2	71.3	72.3	73.3	74.4	75.4	76.5	77.5	78.6	79.6	80.7	81.7	82.8	83.8
Capital Replacement Subsidies- Caltrans & Amtrak	[\$ in '000]	11,956	11,956	11,956	11,956	11,956	11,956	11,956	11,956	11,956	11,956	11,956	11,956	11,956	11,956
Total Sources	[\$ in '000]	12,100.0	12,104.3	12,108.6	12,113.3	12,117.4	12,121.6	12,125.8	12,129.9	12,134.1	12,138.3	12,142.5	12,146.7	12,150.9	12,155.1
Capital Costs - revised ARRA segment	[\$ in '000]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Operating Costs - revised ARRA segment	[\$ in '000]	(143.8)	(148.1)	(152.4)	(157.2)	(161.3)	(165.4)	(169.6)	(173.8)	(177.9)	(182.1)	(186.3)	(190.5)	(194.7)	(198.9)
Capital Replacement Costs - revised ARRA segment	[\$ in '000]	(11,956)	(11,956)	(11,956)	(11,956)	(11,956)	(11,956)	(11,956)	(11,956)	(11,956)	(11,956)	(11,956)	(11,956)	(11,956)	(11,956)
Total Uses	[\$ in '000]	(12,100.0)	(12,104.3)	(12,108.6)	(12,113.3)	(12,117.4)	(12,121.6)	(12,125.8)	(12,129.9)	(12,134.1)	(12,138.3)	(12,142.5)	(12,146.7)	(12,150.9)	(12,155.1)
Change in Cash	[\$ in '000]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

* All projects that are funded by the ARRA monies will be complete by Federal Fiscal Year 2017. However, based on past experience, it is expected that complete funding of those projects will only occur by the early months of Federal Fiscal Year 2018 once all respective paperwork is completed.